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X-ray Treatment of Infections

C. R. F. BAKER, M. D., SUMTER, S. C.

Xray was first used in the treatment of infections in 1902. At that time, it was noticed that certain types of infections seemed to improve after the exposure of the inflamed area to Xray for diagnostic purposes.

At first it was thought that the rays had distinct bactericidal properties but this theory has long been discarded. The present concept is quite different and given by Desjardins in Radiology in October, 1937 is briefly as follows: "Anyone who has had extended experience with radiotherapy for acute inflammations cannot fail to have been impressed by the prompt relief of pain and rapid resolution of lesions when treated early, or the acceleration of suppuration in lesions treated later; by the fact that acute inflammations of various kinds respond at about the same rate when treated at a corresponding stage; and by the fact that a small dose of rays is sufficient to produce this effect. Since the irradiation acts in the same way and on so many forms of acute inflammation, it would seem logical to conclude that the lesions must have some common factor. This factor would seem to be the radiosensitiveness of certain cells which are a more or less prominent feature of the majority of acute inflammations. In pyogenic infections, these in general are characterized by varying degrees of leucocytic infiltration. This infiltration appears to be natures method of intensifying the production of antibodies. Hyperemia is an additional factor which facilitates the mobilization and regimentation of the leucocytes. In certain acute inflammations, local leucocytic infiltration is not a prominent feature. Against infections of this kind the body apparently defends itself by a general reaction of the leucocytes in the circulating blood. Experiments have shown that each type of cell has a specific degree of sensitiveness to irradiation, some being extremely sensitive to small doses while others are not influenced by doses many times larger. The lymphocytes are the most sensitive to irradiation of all cells.

"In circumscribed inflammations the rays act mainly by destroying a portion of the lymphocytes infiltrating the lesion or circulating in the blood vessels which supply the affected area. This disintegration of the infiltrating leucocytes results in the liberation of the antibodies, ferments, and other protective substances contained in these cells. These liberated substances become mixed with the tissue fluids in the surrounding tissue spaces and thus liberated are more readily available for defensive purposes than contained in the original intact white cells. At the same time there is an increase in phagocytosis by the reticular cells.

"In the case of chronic inflammations, they are characterized by varying degrees of leucocytic infiltration, connective tissue proliferation and caseous or calcareous degeneration. While the leucocytic infiltration in such lesions is readily susceptible to irradiation, the con-

Read before the Sumter County Medical Association, Tuomey Hospital, Sumter, S. C., February 2, 1939. Much of the data in this article was taken from a collective review by M. Lowry Allen, M. D., in the International Abstracts of Surgery, S. G. & O., October, 1938.

nective tissue elements are comparatively resistant. Hence, the greater the degree of leucocytic infiltration in proportion to the connective tissue proliferation, the more marked and the more rapid is the influence of treatment. This is easily demonstrated clinically in the treatment of tuberculous lesions in which the effect of irradiation is greater during the infiltrative phase of the tubercles when leukocytes are abundant than later when caseation or calcification have taken place."

Hodges and Berger (2) citing their experience in the Xray treatment of infections over a period of seventeen years have classified the lesions into two groups in accordance with the susceptibility to irradiation. Group 1 comprises early localized erysipelas in adults, furuncles and furunculosis, granulomas, infected hemangiomas, cellulitis of certain types, Mikulicz's disease, parotitis, and rhinophyma. Group 11 comprises carbuncles, blastomycosis, and sporotrichosis. The writers feel that Group 1 lesions are amenable to Xray therapy to such a degree that no other form of treatment is necessary. Group 11 lesions, however, are of such a nature, that Xray is an important auxiliary in their management. In early localized erysipelas irradiation therapy may be considered as a specific. Small lesions so treated disappear within 24 hours and require no further treatment. Furuncles respond almost as readily. If treated early the lesions may be completely absorbed within 12 to 24 hours. Hodges (3) states that one of the most useful applications of the roentgen ray in the treatment of potentially serious infections is in the treatment of those apparently insignificant lesions which occur on the upper lip, around or within the nose, and around the eyes.

Manges (4) of Jefferson University reports about the same findings as Hodges and Berger in the same kinds of lesions.

Knupfer and Hummel (5) report their treatment of 49 cases of postoperative parotitis with irradiation therapy. Most favorable results were obtained in those cases treated early after the appearance of the infection.

Robinson and Spencer (6) treated 12 patients with postoperative parotitis. The parotitis in all the cases followed laparotomy. There were three deaths in the series which represents a distinct decrease in the mortality generally encountered in these cases when ordinary methods of treatment are used. When irradiation was given early in these cases the inflammatory process was aborted or resulted in early localization.

Margraf (7) treated 118 cases of puerperal mastitis. The best results were obtained when the roentgen therapy was instituted with the first appearance of pain, swelling, fever, and leukocytosis. Of 71 cases in which treatment was started within 24 hours 92% had spontaneous healing as compared with 71% in non irradiated cases and with 81% of the cases in which irradiation therapy was started after the lapse of 24 hours. If surgical measures become necessary, irradiation did not seem to shorten the duration of the disease.

Schenck (8) administered irradiation therapy to 105 children suffering from acute cervical adenitis. Of these patients 86% were cured without ensuing suppuration. In the cases classed as cured, all subjective symptoms were relieved in 48 hours and the temperature returned to normal. The glandular swelling took about a week to subside.

Pfahler and Kapo (9) analyzed the results obtained from roentgen treatment in 333 cases of acute and chronic cervical adenitis. In 133 of the cases a diagnosis of tuberculosis was made. One hundred and fifty-nine of the 333 cases returned for observation. Of these 152 patients were cured, or partially cured, while only 7 did not show improvement. No more than 10 treatments were given to any one patient while the average number was 2 to 4. Those patients with old sinuses and scars were treated by electrothermic destruction followed by irradiation.

Rathbone (10) cites his results in treating 70 cases of sinus disease in children. In the group, 57% were cured, 28% showed improvement, and only 15% were not benefitted by the treatment. The criterian of cure was a complete disappearance of all evidence of sinus disease from a clinical and roentgen standpoint. The patients receiving the most benefit were the children with a diffuse lymphoid hyperplasia throughought the nose and throat accompanied by a watery or mucous nasal discharge, a history of frequent colds, a chronic

cough, and a roentgen demonstration of hyperplasia of the mucous membrane of the antra or ethmoids. After treatment it was found that these children had fewer colds and the sinuses were rarely ever again involved.

Daniel (11) reports good results from the early treatment of cases of acute otitis media. Resolution usually occured without suppuration when the treatment was applied within the first 24 hours.

Lucinian (12) treated fifty consecutive cases of otitis media. Thirty-one of the patients were in the acute stage, 8 were in the subacute stage and 11 were in the chronic stage. None of the cases in the acute stage developed mastoiditis or perforation of the drum and none of them required myringotomy. In 9 cases mastoiditis was already present when treatment was instituted and only 2 of these later required mastoidectomy. In the chronic cases the symptoms of peristent discharge, pain, tinnitus, and deafness were either diminished or eradicated and the healing of the drum seemed to be accelerated.

Powell (13) reports on the treatment of 47 cases of lobar pneumonia. Treatment in these patients was started in all stages of the disease and without regard to the type of the causative organism. None of the patients received serum although the usual supportive treatment was given. Sometimes irradiation was repeated in 48 hours. Comparing the results in these 70 cases with 76 patients treated without X-ray, the author observed that the irradiated patients seemed to be made more comfortable, many had crises in the first 24 hours following treatment, the mortality rate was lowered and complications were fewer.

Feinstein and Poppe (14) treated 30 patients with lung abscess. In 17 of these the condition developed after pneumonia and in 10 after influenza. Twenty-five of the cases were uncomplicated by gangrene. Recovery occurred in 22 of the uncomplicated cases and the other three were improved. None of the 25 developed any kind of complication or relapse. Improvement in the patients general condition could usually be noted right away. In chronic cases the results obtained were good also but irradiation had to be repeated. The authors believe that roentgen therapy yields the highest percentage of cures and the most lasting results in recent cases of lung abscess as compared with all other methods of treatment.

Kelly and Dowell (15) report the results of irradiation therapy in the treatment of 56 cases of gas gangrene. In 44 of these the infection was confined to an extremity. The mortality rate was 8.9% which compares favorably with the rate in any series of cases thus far reported. Treatment was given twice a day until there was a distinct regression of the lesion. Amputation seems unnecessary as there were 12 patients who did not undergo amputation and all of them recovered. The best results were obtained when irradiation therapy was instituted early. Serum also was given the patients.

In conclusion I wish to say that no roentgenologist bribed me to read this paper, but I have been helped greatly by our roentgenologist in a number of cases and I just wanted to pass on the good word.

A couple of years ago my little boy had some enlarged glands beneath the left angle of his jaw with tenderness, redness, and fever. I was very much afraid they would have to be incised and drained but Dr. Parrish gave two X-ray treatments and the condition quickly cleared up without suppuration.

I have referred a number of cases of tuberculous cervical adenitis for X-ray therapy and uniformly the results have been good. One case had a fistula of long standing.

One case of carbuncle of the upper lip was treated thus and although the patient seemed to be in a desperate condition at the time of admission to the hospital, he recovered. I had another carbuncle treated by Xray; the patient was made much more comfortable and the course of the infection was greatly shortened.

In a case of fulminating cellulitis in and around the left breast the result with irradiation therapy was little short of miraculous.

Two cases of erysipelas of the face were treated by irradiation. One case was a woman over 80 years old and the other patient was about 75. In both cases the patient was practically well within 48 hours.

So far I have not had an opportunity to use the treatment in a case of gas gangrene but I am just waiting for such a case.

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Coronary and Myocardial Syphilis

This is a continuation of the new Department of post graduate education with the publication of practical articles dealing with medical and surgical problems of the day under the auspices of the Piedmont Post Graduate Clinical Assembly.—Editor.

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To most physicians heart syphilis is considered to be syphilitic aortic insufficiency, or syphilitic aortitis. It is now known that the Treponema Pallidum often invades every part of the heart, and other cardiac conditions may result from it which are not only of medical interest and importance, but are frequently more serious than the aortic lesions.

With these thoughts in mind, I should like to call attention, first, to syphilitic coronary arteritis. The lesions were described by Ehrlich (1) in 1880. He found grey-white foci in the myocardium which he thought to be the result of syphilis. In 1866 Lancereaux recognized also that the coronaries were affected by syphilis, for he mentioned such changes as an obliterating endarteritis. In 1911 Billings (1) reported on syphilitic coronary arteritis. Similar reports on the condition were made by Warthin (2) in 1912; Brooks (1) in 1921; Maher (7) in 1930; Moritz (1) in 1931; Paullin (3) in 1930; and Norris (4) in 1931, '33, '35 and '37. Since those years many other similar reports have been made.

Read before the Post Graduate Clinical Assembly, Anderson, S. C., 1938.

CORONARY SYPHILIS

The pathology of syphilitic coronary arteritis is definite in type. The lesions may either be diffuse or localized, and any part or region of the arteries may be affected. The gross involvement is most marked about the coronary openings where narrowing of the ostia occurs, which reduces the mouth of the artery to a small lumen- even to pin point size. This constriction results from one or two pathological processes.

Puckering, swelling, edema, necrosis, wrinkling and scarring cause arterial distortion at the mouth of the coronary. The other pathological process is one in which there is actual invasion of the ostial coronary wall, or elsewhere, by a collar-like infiltration of cells, such as: lymphocytes, fibroblasts, plasma cells, and other cells of an inflammatory nature. Either of the strictures diminish the supply of arterial blood necessary for the normal function of the heart muscle. In previous reports I have classified syphilitic coronary arteritis and the description may be found in the Southern Medical Journal, May, 1933. Many things can occur to the patient with this condition. Among them are: small coronary aneurysms which may erode and rupture, or the arteries may be constricted at any region or branch of them. Most often both arteries are affected although I have seen one artery apparently normal while

the other was seriously impaired. The arteries may be involved both with syphilis and arteriosclerosis and differentiation may be made only with careful histologic study. If the sclerosis be considerable there is often an increased arterial pressure.

The symptoms in a patient with coronary syphilis may either be minor or quite severe in type. The principles governing them are the same as those in any other type of coronary disease, especially those principles concerned with adequate coronary sufficiency in regard to the immediate circulation of heart blood. Essentially, therefore, the narrower the coronary lumen, the more likely myocardial weakness. There is, however, a distinct difference when viewed from a pathologic standpoint. Not only do the arteries narrow in coronary syphilis, but the inflammation extends about the nerves supplying the coronary bed, and these patients give a history of pain about the heart, which in the beginning was of such a type as to be hardly noticeable, but of occasional frequency. After a few months, or years, the pains rapidly reached a degree of severity to be definitely anginal in type. Therefore, I consider such heart pain, without great severity, but of increasing intensity in a young person with syphilis, to be especially indicative of coronary effection. I also believe angina pectoris in a person under, or about, forty years of age who does not have arteriosclerosis or rheumatism to be syphilitic in type until proved to be caused by some other disorder. If patients with coronary syphilis develop classic symptoms of angina pectoris, then the prognosis is very grave. Two patients whom I recall, died suddenly.

MYOCARDIAL SYPHILIS

The next phase of the problem is concerned with the myocardial lesions which were first described in detail by Hektoen (5) and Warthin (2). Whenever the muscle is invaded the clinical and pathological features are definite and unmistakable. As a rule, the common lesion is characterized by the occurrence of grey or pale grey-white, fairly well defined areas within the left heart wall. These spots usually are not surrounded by zones of hyperemia. They are irregular in size and shape and are fairly firm, containing little necrotic material such as that seen in infarction or tuberculosis, and simulate malignant infiltrations in appearance. Occasionally smaller lesions may be seen in the right heart wall and within the ventricular septum, seldom near the apex or about the auricles or the surface of the heart. Histologically there is a picturesque reaction composed of infiltrations of lymphocytic cells and fibroblasts with an occasional giant cell and many plasma cells. New thin wall blood vessels may be quite numerous. The lymphocytes are mostly around the smaller blood vessels. Necessarily, a tissue change in such a heart must react with grave symptomatic features, and the heart loses its normal strength and viability from the disorganization of its structures. Consequently there occurs a thinning of the heart wall, with subsequent edema of the feet and abdomen in the later stages of the malady. As a rule, the patients give a fairly constant story that tells of a slight shortness of breath following the slightest exertion, associated with mild substernal oppression, occasional orthopnea and a rapid pulse rate. Physical examination usually discloses a normal blood pressure and a rapid pulse of 80-90 beats per minute, with varied types of irregularity. Soft systolic murmurs are generally present. The cardiogram indicates a myocardial weakening. The heart failure rapidly progresses to more serious stages and within a period less than two years, death occurs from angina, congestive pneumonia, or sudden cardiac failure.

MANAGEMENT AND TREATMENT

The patient should be placed absolutely at bed rest and given a well balanced, judicious diet containing essential vitamins. Heart failure should be encountered with progressive digitalization. Iodides and mercury can then be given, but very minimum dosage. Bismuth is of distinct benefit, so far as the present experiments would indicate. Salvarsan or any of the arsenicals are positively contraindicated until all serious symptoms have abated, and then should be administered with every caution, and in smallest quantity. To give a myocardial syphilitic salvarsan in the early stages of heart failure is as dangerous to his health and

life as the untreated bite of a rabid dog would be. There is another phase of the syphilis problem in relationship to heart syphilis that needs special emphasis, and that is that every physician should think more of the eventual effects of syphilis to his patients instead of concentrating on the chancre. Thorough treatment for three or more years in the primary stages of syphilis will do much toward protecting the heart from involvement later in life.

PUBLIC HEALTH ASPECTS

Syphilitic heart disease is common in communities that have a high incidence of syphilis. As nearly as I can determine at present, 20 per cent of syphilitics also have heart syphilis. In white people the incidence is not as high as in the negro. Males have the disease twice as often as females. Studies from a series of cases indicate that while the heart may become affected quite early after infection, most often cardiac symptoms occur seven years after the primary lesions. As a rule, cardiac syphilitics range in the age group between 20 and 50 years. A recent survey of the syphilis problem by Usilton, Hunter and Vonderlehr, in Chicago, gives a good idea of the incidence in larger cities of the United States. These gentlemen found 14, 350 syphilitics constantly under medical care in Chicago, and that syphilis was eight times more prevalent in the negro than in the white population. They further observed that 59 per cent of those affected had acquired syphilis before the age of thirty. Also they noted that 5 per cent of the number had cardiovascular syphilis, and of those 82 per cent had no treatment prior to the occurrence of heart disease. One can further appreciate the appalling situation when we remember that there are about 423,000 persons seeking treatment for syphilis annually in this country, and that we have nearly 650,000 old cases under observation constantly, a total of 1,073,000 persons. If 5 per cent, which is a low figure in my estimation, have heart syphilis, then we have 55,650 persons ill with the malady. This is an embarrassing situation when we recall that the disease is a preventable one.

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Detached Retina and Spindle Cell Sarcoma of the Choroid

CASE REPORT

E. W. CARPENTER, M. D., F. A. C. S., GREENVILLE, S. C.

History—February 4, 1938, Miss C. H., age twenty-nine, white school teacher. For four weeks has noticed a cloud in part of the visual field of the right eye. Recently has to turn head to one side to see clearly. Five years ago was run over by a bicycle and the right eye was badly bruised, did not notice any failure of vision following the accident. Has consulted two eye doctors recently and the diagnosis of detached retina was made. No serious illness previous to this. S. P. Vision right eye 20/200.

Vision left eye 20/20.

Pupils react to direct and indirect light, consensual movements equal in all directions, globes quiet. Inspection of fundus of right eye shows a clear vitreous, extensive detachment of retina, macula pigmented, fovea not apparent, tension twelve Schoitz. The fundus of the left eye was normal. Slit lamp examination of the right eye revealed no pathology in anterior segment of the globe. Wassermann, urine and blood pressure normal. Field study of the right eye showed a loss of upper field and one third loss of the lower temporal field

with a loss of ten to fifteen degrees in the rest of the periferal field. The macula was not detached. A careful study of the fundus revealed waves, ridges and movements in the detached retina except in the three o'clock region. Here the retina was smooth, but elevated without motion. The retinal color was pink throughout, but it had lost some of its translucency, no hole in the retina could be demonstrated. Transillumination revealed a slight loss of transparency over the smooth retinal area.

Discussion—There was no doubt as to an extensive detachment. How could we account for the area of the retina which was smooth, of fair color and slightly elevated above the rest of the *detached* retina? The first condition which suggested itself was a tumor and the type of growth in that location would most probably be a melanotic sarcoma. If this was the case, transillumination should show a very dark area and in this case the opacity was only moderate. The next suggestion was a localized choroidal hemorrhage. Her age, condition of her blood vessels, normal blood pressure, negative Wassermann, normal urine and blood count and lack of pain were all against this suggestion.

The character of an intra ocular tumor can not be determined by the Ophthalmoscope. If fair vision is present, observation from time to time may be made to estimate the progress of growth. If one decides that a growth is progressing the tumor must be treated as if malignant and the globe removed.

With a detached retina the evidence of a growth is obscured, in uncomplicated detachment of the retina the tension is generally lowered. In the presence of a growth and a detached retina the tension is low until the growth assumes a generous proportion and then it rises.

Transillumination is very definite and valuable as a diagnostic measure. In making a diagnosis of sarcoma of the choroid, several conditions must be reckoned with viz:—syphilitic choroidal exudate, cysticercus, tubercle of choroid and retina, choroidal hemorrhage, localized dilated cilliary veins is also suggestive of a tumor.

We decided to operate for detached retina, but first to explore the suspicious area and to that end a cautery point was passed thru the mass and there was no alteration in elevation of the retina. The cautery point gave the impression of being in solid tissue. We enucleated the globe and inserted a glass ball. The pathological report on the globe was to the effect that the mass was a spindle cell sarcoma with very little pigment. This lack of pigment in the growth explains its failure to cast a dense shadow on transillumination.

Deep X-ray therapy was applied over the orbit. This caused considerable shrinkage of orbital fat. After five years if there are no contra indications, fat can be planted in the orbit in order to improve the cosmetic result.

Laboratory report—Right eye—Looking over the external surface of this eye it is essentially negative. On cutting the eye after hardening, the anterior chamber and lens are negative. At the back of posterior chamber, there is a tumor 1.5 x 1.2 x 1 c. m. that has pushed the retina in folds in front of it. The surface of the tumor is brown, does not appear grossly to be invading the sclera, but attached to it. The growth is soft, light brown in color. Is grossly a Sarcoma. Section shows the structure to be a spindle cell growth, these in bundles of broad cords running in several plaçes, there are melanotic cells scattered through this growth and on the surface and at the base. The origin of the growth was in the choroid coat, and is a malignant tumor. The tumor was only slightly pigmented.

Laboratory report by Dr. T. R. W. Wilson, General Hospital.

Message From Our New President

To The Members of The South Carolina Medical Association:

The time was never more propitious for an organized medical group in South Carolina to lead and instruct the public than now. When there are reports and in some instances threats of governmental control of medicine; when the medical profession is being assailed in magazines, and newspapers, and by radio by government officials and socialists and editors; when a large percentage of physicians are labeled incompetent by one of our own profession; our answer must be an aroused, organized profession seeking to improve ourselves in scientific knowledge and accomplishments and exerting every effort to enlighten the people in what the medical profession of today is doing and intends to do towards providing better medical care.

It is with this challenge facing us that I am now trying to formulate a program which will lead us into newer and greater activities. I beg the cooperation and assistance of every member of organized medicine in South Carolina.

Faithfully yours,

DOUGLAS JENNINGS.

Retiring President's Address

J. R. DES PORTES, M. D., FORT MILL, S. C.

Gentlemen:

We are celebrating the 91st anniversary of the founding of our Association. During these years many changes have taken place. Our first President in making his address spoke to doctors and surgeons and in those days these men did all of the surgery as well as the practice of medicine, mixing the medicine they prescribed, pulling teeth, looking after public health, etc. From what I can find they spoke a language every one present could understand. Specialism, Pharmacy and Dentistry were unborn.

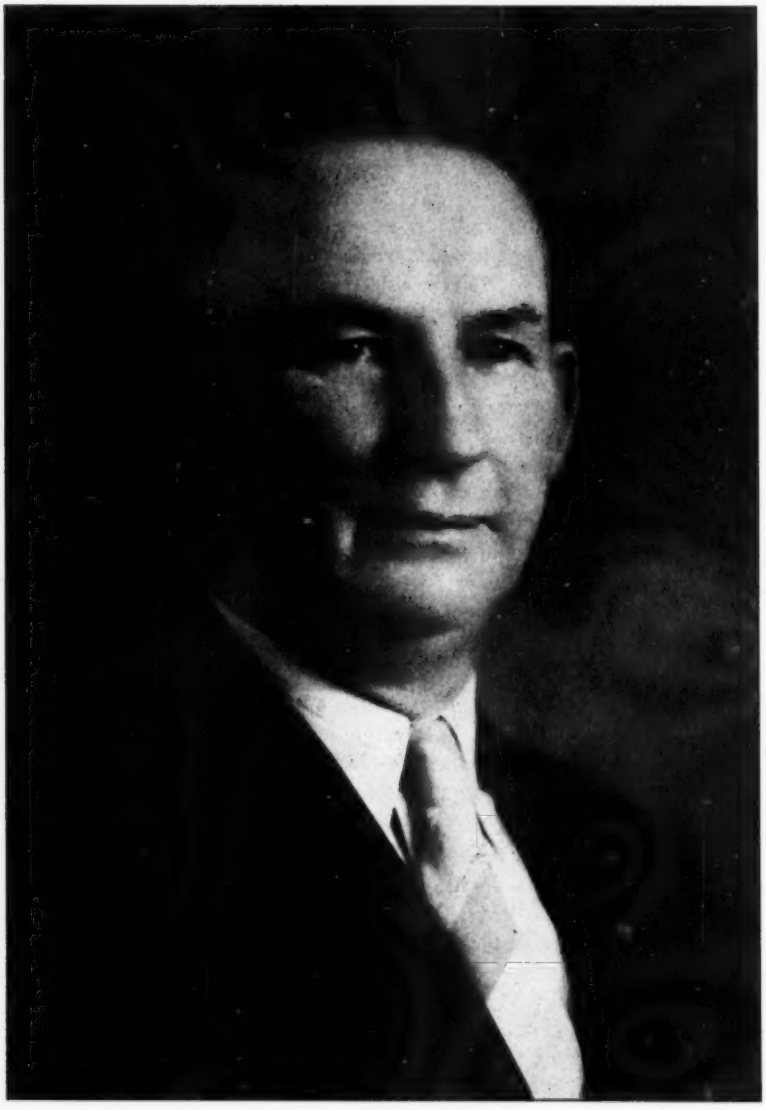
Today we have every department you can imagine and medical affairs are wonderfully divided. In those days a doctor was the leader in his community, loved and respected by all. Today think how things have changed. State Medicine, Medical Economics, Laymens Committees or the Womens Councils were unknown when I was given my diploma but we were taught ethics and if we would follow the Golden Rule and live up to the ethics every man in our ranks would be a better man, more loved, honored and respected than those who think more of driving a bargain than of following in the footsteps of the great Physician and using our efforts to heal those who put their trust in us.

Since my time as President is fast closing, I want to appeal to each and every one of you to stay in the ranks of organized medicine and in every way possible keep its banners flying. Live up to the ethics of the profession, make it better than when you entered it and if we do this and stand united we have nothing to fear from politicians or wolves howling at us from all sides. But fail in this and lower your standards and it is only fair that we shall have some one dictate to you how and when and what type of work you shall do.

I want to assure you I appreciate the honor of being a member of this body, of serving for many years on its Council, of the great honor of serving as its President. My work has been pleasant and I want to thank every one of you for the help you have given me and the many courtesies shown me on every side. Without it I should have failed. I succeeded one of the best of our Presidents. I have tried as best I could to carry on where he left off. I wish my successors every good wish and my earnest prayer will be a better Association of better men than in the past. Hoist your banner high. Remember the ethics of our profession and follow in the foot steps of the great healer and the future will be bright and every cloud will have its silver lining.

May every good wish and his richest blessing follow each of you always.

Delivered before the South Carolina Medical Association, Spartanburg, S. C., April 12, 1939.



William Lowry Pressly, M. D., President-Elect South Carolina Medical Association, Due West, S. C.

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GREENWOOD COUNTY MEDICAL SOCIETY MOVES FORWARD

One of the rapidly developing sections of the State is Greenwood County and the medical profession is keeping step with this splendid progress there. Under the presidency of Dr. C. J. Scurry the County Society has taken on renewed activity by enlarging their programs each month and inviting distinguished speakers from other states to participate in their procedings. The meeting held on Tuesday night, April 25, featured addresses by Dr. Lansing Lee, Professor of Medicine at the University of Georgia and Dr. R. C. MacGahee, Associate Professor of Pediatrics at the same institution. The meeting was held at the Country Club and there were a large number of guests from surrounding towns.

The Greenwood County Society has in its membership now two officers of the State Medical Association, Dr. C. H. Blake, Vice President and Dr. J. D. Harrison, Councilor of the Third District. Dr. H. G. Royal is the new Secretary of the County Society.

SOME REFLECTIONS ON THE SPARTANBURG MEETING

The Ninety-First annual meeting of the State Medical Association held at Spartanburg measured up to the expectations in a grand way, the attendance exceeding four hundred all told including thhe Woman's Auxiliary. President Des Portes presided in a most efficient manner and kept everything moving in an orderly fashion from beginning to end. The guest speakers added tremendously to the keen interest of the occasion. The House of Delegates transacted a large amount of business owing to the many committees now working under the direction of the State Medical Association. The scientific program drew close attention on the part of the members throughout the convention. Many new surgical procedures and therapeutic advances were brought to the attention of the profession showing that the South Carolina doctor is well to the forefront in his calling. Too much praise cannot be accorded the members of the Spartanburg Medical Society, the Woman's Auxiliary, and the citizens generally for their cordial hospitality.

President Des Portes is to be congratulated on his splendid record as the head of the medical profession in South Carolina. During the

year of his presidency he was called upon to face many important issues in the interest of the health of the people of South Carolina and the welfare of the medical profession. He discharged all of these duties in a most commendable spirit. He steps out of the presidency it is true and back into the ranks but by no means into inactivity. He will continue to give of his very best to the South Carolina Medical Association. He has shown a deep interest in medical education in South Carolina; indeed to such a degree that he was promptly elected President of the Alumni Association of the Medical College of the State of South Carolina.

Dr. Douglas Jennings takes over the gavel as President of the Association and he is fully qualified to lead us into still larger avenues of progress. Dr. Jennings has had a long and varied experience in organized medicine. He is still a young man and this background will serve him well in connection with his plans referred to elsewhere in this issue.

Plans are already under way looking toward the Charleston meeting in 1940. There is never a dissenting voice when the invitation comes to visit the City by the sea. We predict that the session to be held there will be a record breaker from every standpoint.

DR. WILLIAM LOWRY PRESSLY, PRESIDENT ELECT S. C. MEDICAL ASSOCIATION

The elevation of Dr. Pressly to be President Elect of the South Carolina Medical Association is an honor well deserved and comes after many years of service to organized medicine in South Carolina and other states. Dr. Pressly's genial personality wins for him everywhere a spontaneous feeling of friendliness on the part of those with whom he comes in contact. Dr. Pressly has a fine record as a member of the Council of the South Carolina Medical Association. He was elected to this office in 1931 and was repeatedly re-elected for a number of terms or as long as he would consent to serve. The splendid activities of the Third District reflected the keen interests of Councilor Pressly at all times. Dr. Pressly is one of the best known general practitioners in the state. For many years he has been prominent in educational circles by virtue of his official connection as physician to the institutions of learning at Due West.

Dr. Pressly was born December 2, 1886, the son of Professor John L. Pressly and Josie Le Gal Pressly. He was educated in the public schools of Due West and at Erskine College, graduating from the latter June 1907. In the fall of 1908 he entered the Medical School of Emory University, graduating in 1912. After spending three years as an Interne in the Jefferson Hospital, Roanoke, Virginia, Dr. Pressly located in Due West in 1915 practicing in partnership with the late Dr. J. R. Bell. During the World War Dr. Pressly served in the Medical Corps of the United States Army. He has spent part of two summers in special study in Dr. Lahey's Clinic, Boston, Massachusetts.

OBSTETRICS AND GYNECOLOGY

J. D. GUESS, M.D., GREENVILLE, S. C.

ORGANO-THERAPY EMPIRICAL OR SCIENTIFIC?

Not many years ago the therapeutic use of dried extracts of the various endocrine glands was seemingly firmly established. Around it was built up an extensive literature. The sale of these substances was enormous. Now with scientific methods of assay, it is generally recognized that these substances with the sole exception of thyroid extract, are worthless and without worthwhile potency.

Not many years from now, it is the editor's prediction, a similar charge of worthlessness, and in some instances even of harmfulness, can be made with regard to the use of many of the more potent newer preparations of glandular substances or harmones which are so widely used today. Already the literature dealing with organo therapy is in a constant state of change, concepts being discarded or changed so rapidly that it is impossible for one to follow the changes.

There are several causes for this difficulty. True it is that there is a progressive knowledge based upon scientific observation, so that constant study is required to keep up with new facts. However, much that is being written and talked is not scientific fact, but is theory, concept and speculation. Here lies a great difficulty, for it requires careful reading to segregate fact from theory and one is likely to accept theory for fact.

In this there are encouraging factors urging one on. The helplessness one feels when confronted with little understood functional derangement, prompts one to grasp any thing advanced as a useful agent. The biological manufacturers, in their desire to spread the tremendous cost of their experiments and of the manufacture of endocrine products, are quick to present in their literature all suggested, and often highly speculative, therapeutic uses of these products in an alluring manner, so that the unwary is likely to accept theory and speculation as proven fact.

The manufacturers cannot be too harshly criticized for this, for apart from their need for money to carry on experimentation and to finance clinical trial under scientific control, it is no doubt difficult for them always to segregate clinical fact, based on controlled observation, from the presentation of more or less pure speculation as if it were fact, and that by men whose statements should be authoritative.

A study of the section on endocrinology in the *Year Book of Obstetrics and Gynecology* for 1938 clearly illustrates the truth of the last statement. The articles abstracted are filled with contradictions and misstatements, and yet they emanate from sources which warrant their publication in leading medical journals and in this carefully edited and authoritative handbook. When authorities disagree what should be the attitude of the editors of the house organs of manufacturers who make these substances to sell and who have spent great sums of money in perfecting their isolation, purification and standardization, and what should be the attitude of you and me who need so badly drugs which will do what some of the authorities insist that they will?

A comprehensive discussion of this question which has ethical, moral and scientific ramifications cannot be undertaken, and only several observations will be made. Before undertaking the clinical application of the newer endocrine facts and fancies, one should at least be reasonably familiar with known facts and generally accepted theories of the interrelationship of the several endocrine glands and the physiological functions of each gland. Then he should so study his cases, that he can formulate a reasonable idea as to the underlying endocrine disturbance. He should be familiar with the alleged active harmones of the various preparations which he contemplates prescribing and should attempt to fit the action of the harmone of the selected product in a rational manner into the pattern of disturbed physiology as he has conceived it to be. At

best he will make many errors both in diagnosis and in treatment, and many times he will not be able either to map out the disturbance in function or to fit into the picture any known harmone.

The distinction between observations made and results obtained in experimental animals and those in man must be closely borne in mind. The serum of pregnant mares, containing a high concentration of gonadotropic substance, will soon be made commercially available. Its value in functional menometrorrhagia associated with failure of ovulation, amenorrhea associated with non-maturation of the follicle, and sterility because of non-ovulation is immediately suggested. The serum is said to produce follicle growth, ovulation and luteinization in ewes. Hartman warns that the substance converts the ovaries of monkeys into large masses of corpora lutea. Siegmund found at operation upon women who had received mare's serum numerous follicles, without luteinization and warns against the possibility of excessive follicle stimulation. Hamblen found it of no value in menometrorrhagia due to anovulatory ovarian failure. Davis and Koff found, after the administration of mare's serum to women that only half ovulated once or more, and most of those who did so were women with normal ovarian activity and periodic ovulation. It would appear that the gonadotropic substance of mare's serum is far more active in ewes and in monkeys than it is in women.

One who would intelligently prescribe endocrine products must also familiarize himself with what in each instance is adequate dosage. The various kinds of units used to designate the amounts of active harmone is very confusing. Furthermore, because of their costliness, most of these products are marketed in varying strengths, and the lower strengths frequently contain such small amounts of the harmone as to be of little if any value.

Empiricism, then in the clinical use of commercial endocrine products is easy, but it is slovenly, frequently disappointing, and always costly to the patient. It is frequently misleading as well, for often readjustment of the endocrine balance occurs spontaneously, when it is erroneously ascribed to the treatment. Perhaps, at times the treatment hinders or prevents such spontaneous readjustment. Scientific organo-therapy, however, is possible to a fairly well defined and rather limited extent, and where possible is often marvelously effective.

EYE, EAR, NOSE AND THROAT

J. F. TOWNSEND, M.D., F.A.C.S., CHARLESTON, S. C.

PARAPHARYNGEAL HEMORRHAGE

DR. F. W. WHITE AND L. HUBERT—ARCHIVES OF OTOLARYNGOLOGY, 1939, P. 1

This type of hemorrhage has occured in several cases in the Roper Hospital Service and was found to be serious enough to warrant any helpful suggestions. As we thank Wyeth for his discovery of the carotid cervical anastomosis, so we feel grateful to Mosher for his investigations in the neck in relation to the pharyngo-maxillary space and inflammatory diseases. Salinger and Pearlman reported 10 cases. There were 6 deaths, 4 before surgical aid could be instituted. There were 5 cases of ligation of the common carotid artery and 1 of the jugular vein.

The common carotid was ligated a second time on account of a recurring hemorrhage. In this series of 6 cases, there were fortunately no deaths. The common carotid artery was ligated on two occasions, the external carotid artery on two cases and the ascending pharyngeal artery on one case. The internal jugular vein was not involved in any instance.

The Horner syndrome occurred once. Peripheral paralysis of the fascial nerve was observed in one case, without any signs of cerebral dysfunction.

In one patient there was concomitant diabetes and acidosis; one had scarlet fever.

Case 1. Boy 5 1/2 years old, admitted with scarlet fever, nasopharyngitis, pansinusitis and adenotonsillitis. Otitis media developed with

the need of a mastoidectomy, left side, on the 16th day of admission. On the 17th day there was profuse nose bleed and excessive bleeding from the mastoid wound. The nose bleed recurred that night. 12 days after the mastoidectomy there was epistaxis, bleeding from the mouth and much blood in the vomitus. On the following day an operation of the neck showed an intense inflammatory condition in the artery, glands and tissue. The external and internal arteries being massed in the inflammatory tissue. The left common carotid was ligated. A swelling on the left pharyngeal wall appeared on the next day. It was aspirated with a large needle, and much fluid was massaged from it. The patient had from time of admission 6 transfusions, besides infusions of sodium chloride. Tonsils and adenoids removed 10 months later.

Case 2. A boy 15 years old, admitted, complaining of sore throat, difficulty in opening the mouth and stiffness of the neck on the right side. Examination revealed a slight swelling on the right pharyngeal wall, trismus and a temperature of 103 F. The swelling increased in size and spread over the right anterior pillar into the soft palate. An incision into this swelling resulted in severe hemorrhages. On March 24 (11 days after admission) the right external carotid artery was ligated but the hemorrhages continued. Two days after the first ligation, the external carotid was again ligated, as was the ascending pharyngeal artery. The bleeding continued, not only from the throat but from the external auditory meatus. On March 28 the wound in the neck was reopened, "and an incision exposing the common carotid was made, and the artery ligated. There was only one more hemorrhage." Discharged, cured.

Cases 4, 5, and 6, have no special features.

Anatomic and Diagnostic Considerations

The glands around the carotid may become enlarged and obstruct the circulation or break down and cause an erosion and hermorrhage, the resulting hemorrhage is for a time confined to the immediate neighborhood. "A severe hemorrhage may occur suddenly, or several small hemorrhages may procede a grave hemorrhage. Any hemorrhage from the throat, especially if repeated and if accompanying local infection, should be looked on as a danger signal and appropriate action should be taken immediately."

"Besides the great blood vessels of the neck and the lymphatic glands, the pharyngomaxillary space contains the ninth, the tenth and the twelfth cranial nerve and also the cervical sympathetic trunk and its superior cervical ganglion, "and" in the parotid space the seventh cranial nerve. Every effort should be made to determine whether these nerves are involved, as such knowledge may be of great aid in making a diagnosis. However, such information is somewhat difficult to obtain because of trismus and the general condition of the patient."

"Involvement of the Sympathetic Nervous System, "may occur from" the extension of the infection of the pharyngomaxillary space, the superior cervical ganglion and its proganglionic and postganglionic fibers, resulting in Horner's syndrome, "which" syndrome is characterized by a constriction of the pupil, a drooping of the upper eyelid, a narrowing of the palpebral fissue. These signs are produced by a paralysis of the sympathetic fibers that are given off by the superior cervical ganglion and supply the dilator muscle of the pupil, the smooth muscle fibers in the lid, Muller's muscle and the blood vessels and sweat glands of the skin of the face. A case of pharyngomaxillary infection with paralysis of the ninth and the twelfth cranial nerve and the sympathetic trunk was reported by Gaston and Lemaitre. The peritonsillar abscess was incised and a large amount of pus evacuated. Five days later, severe hemorrhage occurred, indicating the erosion of a large blood vessel. The external carotid artery was ligated and the bleeding stopped."

Problems of Treatment

"Most frequently, the source of the infection is peritonsillitis. There are fever, tenderness in the cervical region and adenitis. If the infection is of such severity as to cause erosion of a large vessel in the neighborhood, blood escapes. At this time there may be marked although gradual, increase in the amount of swelling in the neck. If the pressure of the escaping blood is sufficient to force

the neighboring tissues inward, a mass forms on the lateral wall of the pharynx and extends upward to the soft palate, simulating a peritonsillar abscess. It may even pass downward toward the base of the tongue. These swellings are most frequently diagnosed as peritonsillar or lateral pharyngeal abscesses and are incised. A varying quantity of dark blood only escapes. This result should be a danger signal of vascular damage. A hematoma following incision of an abscess may give rise to a seepage of blood and should be given careful consideration."

"Next in importance to a history of pharyngeal infection is the presence of trismus. Trismus, "which" condition is due to a spasm of the internal pterygoid muscle, is not due to an actual infection of the space but to collateral edema. Trismus is conspicuous by its absence in cases in which peritonsillar abscess burrows down the posterior pillar and forms a mass on the lateral pharyngeal wall. If a supposed anterior peritonsillar abscess is incised and trismus is not favorably affected, it must be assumed that pharyngomaxillary involvement is present. If no pus but dark, bloody fluid appears, the patient should be hospitalized. Continued bleeding then indicates that deeper structures are involved, and ligations of the external carotid of the ascending pharyngeal artery should be done and a loose ligature placed about the common carotid artery. A hemorrhage from the external auditory canal or the eustachian tube practically always means erosion of the internal carotid artery and the formation of a false aneurysm. The ligation should be done slowly. This is the crux of ligation of the common carotid artery."

"The external route of attack is the only one to be considered. One may operate with the patient under local or under general anesthesia. If general anethesia is to be employed the intratracheal method is the safest. It may be surprising to find involvement of the vagus nerve, which originates in the pharyngomaxillary fossa."

Conclusions

"1. An effort should be made to determine the status of the nerves in the pharyngomaxillary space.

2. Conservative treatment of pharyngomaxillary infection is in many instances successful.

3. Ligation of the common carotid artery, when it is done slowly—in minutes, not seconds—is a life saving operation, as compared to temporizing methods of operation by the intrapharyngeal route.

4. Hemorrhages from the throat and the ear associated with trismus involvement of nerves as noted, lateral pharyngeal tumefaction, sepsis and swelling and tenderness of the corresponding side of the neck indicate infection of the pharyngomaxillary fossa."

5. When to ligate has to be determined in these cases, just as in other surgical procedures, but a ligation will prevent cases that otherwise may continue to bleed until they die.

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Pathological Conference, Medical College of the State of South Carolina

KENNETH M. LYNCH, M. D., PROFESSOR OF PATHOLOGY

Case of Dr. W. H. Kelly
Feb. 10, 1939
ABSTRACT NO. 385 (43206)

Student Bell, presenting.

Admitted Sept. 23. 1937; died Oct. 16. 1937.

History: The patient, a 60 year old colored man, was admitted with the complaint of "paralysis of legs." Present illness began 3 weeks before, at which time, the patient first noted weakness in his right leg. Soon afterward, the left leg also became weak. Concomittantly, he noted pain in his back which radiated to either side and was of a constant dull aching character. The patient stated that his lower extremities felt numb; he was able to walk with increasing difficulty up until about two days before admission. Also complained of difficulty of micturition. At time of admission was neither able to walk or exercise control over bladder function. Past history was not pertinent.

Physical: Examination of the head and neck was essentially negative. The lung fields were clear to percussion and auscultation. The apex beat was in the 5th i. c. s. 3" to the left of the midline. Cardiac rate 68, rhythm regular, sounds of good quality and no murmurs were heard. B. P. 125/85. Examination of the abdomen revealed no palpable organs or masses; there was no tenderness to pressure. There was urinary incontinence. Neurological examination revealed absence of the abdominal reflexes, knee and ankle jerks. There was loss of pain, temperature and vibratory sense over the hip girdle and lower extremities. There was also unequal loss of light touch perception. There was flaccid paralysis of the lower extremities.

Laboratory:

Urinalysis: (9-23-37) Examination of one specimen revealed no noteworthy findings.

Blood (9-23-37)
Hb 65%
WBC 4,600
Polys. 66%
Lymph. 33%
Eos. 1%

Serology (Blood)
Kolmer 4 plus
Kline 4 plus
(Sp. Fluid)
Kolmer 3 plus.

Spinal Fluid

On 9-17-37, fluid was xanthochromic, showed globulin 4 plus and a cell count of 8 (lymphocytes).

On 10-1-37, fiuid was xanthochromic, showed microscopic blood and a cell count 97 (lymphocytes). Colloidal gold test showed a meningitic curve.

Course: Patient's general condition did not improve. Spinal fluid pressure showed a slow but marked rise on jugular compression. About 2 weeks before death the temperature became elevated and the pulse rapid. Later became quite drowsy, then stuporous. Developed decubitus ulcers over bony prominences of posterior pelvis. Died 10-16-37.

Dr. Kelly: (presiding) Mr. Kinder, will you open the discussion?

Student Kinder: On examination this patient showed certain definite signs of diagnostic importance. He had a marked weakness in both legs which was progressive in character and which had come on rather acutely. Also there was an associated difficulty in micturition. Both his blood and spinal fluid wassermanns were positive. A tumor pressing on the lower segments of the cord and involving the parasympathetic centers could account for all these changes. Because of the serology, his high spinal fluid cell count and his subsequent course, I believe the tumor is probably a gumma.

Dr. Kelly: How would this fit in with the sensory disturbances?

Student Kinder: Loss of pain and temperature as well as disturbance of vibratory sensations of the lower extremities could be involved with this lesion as well as his pyramidal tracts. The posterior co'umns controlling vibratory and sensory position of space are frequently involved in cord syphilis and may be due to either a meningeal or vascular syphilitic lesion.

Dr. Kelley: Mr. Jervey, are there any other conditions?

Student Jervey: I think the positive Quackenstaedt sign proves the presence of an obstructive lesion in the cord and neoplasm or an inflammatory tumor might account for this. Neurofibromas occasionally cause compression of the cord but they are also frequently associated with similar lesions of a similar nature elsewhere in the body. An aortic aneurysm might possibly erode the bone and involve the cord but it would have to be an extensive lesion. I think a gumma involving the cord is far more likely.

Dr. Kelly: Is there any other vertebral lesion that could cause compression of the cord?

Student Jervey: Yes, tuberculosis may cause destruction of the bone but it is usually associated with pain and typical X-ray findings. The X-ray of the spine in this case showed only hypertrophic arthritis.

Dr. Kelley: Mr. J. H. King, can you add anything to the discussion?

Student King: There may be an osteoma or even a sarcoma of the bone but this should be accompanied by typical changes in the X-ray film.

Dr. Kelly: Mr. Pratt, what are your ideas?

Student Pratt: We have to rule out meningomyelitis and chronic obstructive arachnoiditis. The latter may follow trauma, of which we have no history. In view of the spinal fluid findings and the rapidity of development, I would think it were a meningomyelitis.

Dr. Kelly: Mr. McGraw, will you interpret the final events?

Student McGraw: The decubitus ulcers may be produced by involvement of the peripheral nerve trunks as they emerge from the cord, due to a syphilitic involvement of the meninges. Trophic ulcers are frequently found in association with destruction of sympathetic nerve fibers. I cannot explain his drowsiness.

Dr. Kelly: Mr. Livingston, what do you think?

Student Livingston: I understand a patient with lesions of this type frequently develops an intercurrent infection of pneumonia or genitourinary involvement with loss of bladder tone following a cord lesion. There is considerable urinary stasis and an ascending pyelonephritis is common.

Dr. Kelly: Mr. Kinder, do you agree with that?

Student Kinder: He may have had an ascending infection of his urinary tract with uremia. This would account for his terminal drowsiness.

Dr. Kelly: (to staff) Does anyone else care to discuss this case?

Dr. Kredel: If the history is at all reliable I think we can rule out a cord tumor because of the rapidity of its course. In a man of this age a metastatic carcinoma may cause collapse of a vertebral body with pressure on the cord. X-ray findings are against this. I think in view of his serology, a luetic endarteritis involving the spinal vessels with cord softening is the best diagnosis.

Dr. Lynch: We can settle the question of the cord lesion but we do not know why he died at this particular time. Perhaps a septic state from a gangrenous bed sore was responsible for his terminal course. He had however, no inflammatory lesion of the kidney and no other morphological evidence of sepsis. At the level of the eighth dorsal vertebra, cut sections of the cord show marked degeneration of both gray and white matter, which was visible even in a fresh state. A small nodule was present on the inner surface of the dura and there were several adhesions to the arachnoid and pia at this level. The patient had a syphilitic aortitis. The bladder showed only minor infection and there were no other significant lesions at autopsy. Grossly I thought this lesion to be gummatous in nature involving the dura with a secondary myelitis of the cord.

A microscopic slide of the dura was then shown and Dr. Lynch demonstrated a gummatous lesion with central necrosis exerting pressure on the cord substance proper. Also there was some degeneration of the fiber tracts.

INTERESTING CASE REPORTS FROM ROPER HOSPITAL

For some time a plan has been under way to present to the physicians of South Carolina case reports from the teaching hospital at the Medical College giving in detail the methods pursued in the wards there. It is hoped that this presentation may be of service to the busy doctor in his practice.—Editor.

THE TREATMENT OF TETANUS

V. WELLS BRABHAM, M. D., ROPER HOSPITAL

The treatment of Tetanus resolves itself into four main procedures; local treatment of the wound, neutralization of the toxin by specific serum, prevention of muscular spasm and convulsions, and maintenance of nutrition.

The local treatment of the wound is important. It should be debrided, some cases being done better under a general anesthetic. Regional anesthesia is ideal when possible. Analgesia by local infiltration is not advised. All foreign bodies and devitalized tissue should be removed, and infection combatted. Cauterization is contraindicated because it results in devitalization and coagulation of tissue and defeats the purpose. An infected wound should be opened widely. Even an apparently healed wound should be opened. Small wounds may be excised. One should realize when he is doing these things that it is not without danger because he may be breaking down nature's barriers and exposing wide areas of absorption. Antitoxin is frequently given around the wound. The dressings should be changed frequently, and nothing should be put on the wound to produce anaerobic conditions. Potassium per-

manganate or hydrogen peroxide may be used.

There are four routes by which the antitoxin may be given: intravenously, intramuscularly, intrathecally and subcutaneously. The only routes we advocate are the first two. Injections into the spine are best avoided; the serum causes a chemical meningitis. There is no convincing evidence showing the safe minimum dose. We had one case which recovered on 21,000 units; but this may have been one of the cases which would have recovered with no antitoxin. It is probably better to give 100,000 to 250 or 300,000 units, including 100,000 within the first 24 hours. The antitoxin is given in the first three days. A "safety" dose of 10,000 to 20,000 units may be given on the 7th or 8th day. The toxin that is already bound cannot be touched; it is that which is on its way to the nervous system that is neutralized by the antitoxin.

Since it is during a convulsion that death frequently occurs the necessity of prevention of muscle spasm is obvious. The room should be moderately dark and absolutely quiet in order to prevent external stimuli from reaching the patient. Various sedatives have been used, such as, magnesium sulphate, luminal, amytal, nembutal, bromides, chloral and avertin. Much has been written recently about the good qualities of avertin. Care should be taken not to give too large doses and thus keep the patient depressed too much. About 60 to 70 mgs. by rectum o. lcc. avertin per kilogram body weight is usually adequate and may be repeated as needed. Avertin has not been met with favor in the pediatric department. In children the sedative found most reliable has been 25% solution of magnesium sulphate intramuscularly in doses of 1/10 to 2/10 c.c. per pound of body weight, repeated in 3 to 6 or 8 hours as needed. The dosage of any sedative must be determined by the individual case. The patient should be kept somewhat relaxed but he must not be too much depressed and thus invite pneumonia.

Fluid, salt and caloric requirements must be met. The patient may be able to take fluid himself. Fluids and food may be given through a Levine Tube passed through the nose to the stomach. A tube passed just into the esophagus may deposit liquid so close to the larynx that it may be aspirated into the lungs; it is obvious that this should be avoided. Supplementary fluid and saline and glucose may be given intraveneously if needed.

Bowel elimination may be stimulated by enemas and mild laxatives.

SURGERY

WM. H. PRIOLEAU, M.D., F.A.C.S., CHARLESTON, S. C.

TREATMENT OF POSTOPERATIVE PULMONARY ATELECTASIS

Pulmonary atelectasis or collapse is one of the more common postoperative complications. Until the condition became more generally recognized, no doubt many such cases were mistaken for pneumonia. Its successful treatment is dependable upon its early recognition, and both upon an understanding of the underlying process.

In a recent article in Surgery (5:420, March '39) A. E. Moore of Cincinnati considers the subject from a standpoint of etiology as well as treatment. The concensus of opinion is that the primary factor is a plug of mucus obstructing a bronchus. The air in the lung distal to the obstruction becomes absorbed, resulting in atelectasis. Numerous contributing causes are recognized such as respiratory infection, recumbency, dehydration, limited respiratory movements, and suppression of the cough reflex by drugs. The clinical picture is that of a sudden difficulty in respiration and elevation of temperature. There is limited excursion of the affected side with a shift of the mediastinal structures toward it. The breath sounds are absent or greatly diminished over the involved area. X-ray is of great assistance in diagnosis.

Various forms of treatment are considered. The mucus plug may be removed by bronchoscopy, but there are various disadvantages

to this procedure in the average post-operative case. Artificial pneumothorax on the affected side has given good results. However it has not met with general acceptance.

The usual practice is to attempt to dislodge the mucus plug by forceful respiration and exciting a cough. In a great many instances this suffices. The author points out that the effectiveness of these measures is greatly increased if combined with appropriate posture of the patient for gravity drainage of the main bronchus. The position most suitable for this is obtained as follows: (1) Raise the foot of the bed. (2) Turn the patient so that the affected side is uppermost. (3) Incline the patient slightly forward upon the abdomen. Appropriate measures are then used to produce coughing. The plug of mucus is generally loosened and expelled. The patient is encouraged to continue coughing until rhonci can no longer be felt by the palpating hand. With this method the author reports consistently good results in cases in which the diagnosis is made early.

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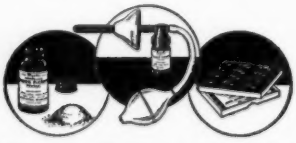

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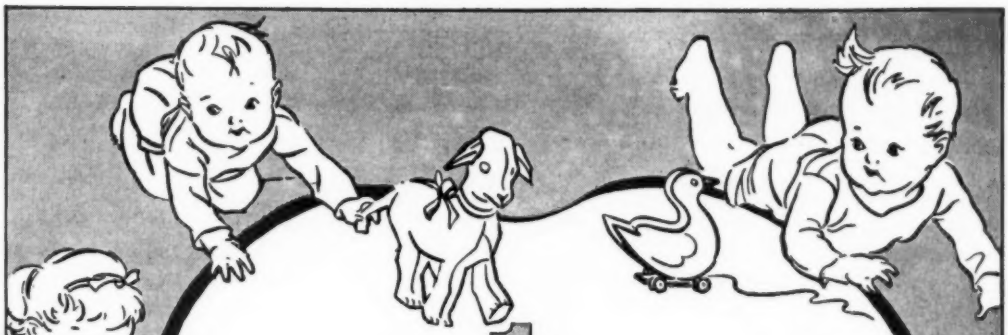

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SOCIETY REPORTS

THE COASTAL MEDICAL SOCIETY

The Coastal Medical Society had it's monthly meeting in Beaufort, S. C., on March 17, 1939. The meeting was called to order by Dr. J. B. Johnston, our new President for the coming year; minutes of the previous meeting were read and approved.

Dr. Johnston acknowledged the presence of a number of visitors, and especially Dr. Freeman of the Medical Department of Johns Hopkins University, also Dr. and Mrs. R. W. Geise and Dr. C. W. Virtue of the U. S. Navy. He extended to them the privilege of the floor.

Dr. Johnston then asked if anyone had anything to say regarding the new Medical Health program for the Government Farmers. Drs. Preacher, Black and Johnston stated that the plan had been accepted in their counties and was ready to start. As yet no one would predict just how it would turn out.

Dr. Richard Johnston was asked to present his subject to the society. Dr. Johnston read a paper on typhoid fever, giving a general summary of the various aspects of the disease, and stressing in particular Pathology, Complications and Prophylaxis. This subject was discussed at length by Drs. Freeman, Elliot, Brown, Guyton and Foster.

Dr. Thackston of Orangeburg was then presented to the society and read a very interesting paper on the "Newer Forms of Sulfanilimide." This subject was interesting and discussed by Drs. Bennett, Brown and Preacher. Both papers were thoroughly enjoyed.

Dr. Black then gave a very interesting case report, the diagnosis as yet undetermined, and Dr. Black stated, by the way, that this is one case that recovered in spite of the doctor. The report was discussed and enjoyed by all.

St. George was chosen as the next meeting place. The Society will not meet until June, because of State and District meetings in April and May.

There being no other business the meeting adjourned followed by dinner at Anchorage.

A. R. JOHNSTON, Secretary.

YORK COUNTY MEDICAL SOCIETY

The York County Medical Society met, February 23, 1939, at the Chamber of Commerce Hall, Rock Hill, S. C. The meeting was called to order by the President, Dr. D. A. Bigger. Minutes of the previous meeting were read and approved.

The program was as follows: Dr. S. H. Shippey, Rock Hill, S. C., gave a paper on Pneumonia and the Treatment with Serum. He brought out the good results that were being obtained by the use of Sulfapyridine in some of the larger clinics. Dr. Shippey also presented a case of Contact Dermatitis. Dr. W. B. Ward presented two cases of unusual Intestinal Obstruction. Dr. S. G. Love gave a paper on Appendicitis. Dr. E. E. Herlong presented an unusual case of Kidney and Ureteral Calculi. These papers were discussed by members of the Society.

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